

1 What is claimed is:

2 1. A process for massively producing tape type flexible printed circuits comprising the
3 steps of :

4 (a) providing a flexible insulation tape reeled in a reel;

5 (b) sequentially pressing a copper foil and a dry film on the flexible insulation tape
6 and setting first standard points;

7 (c) positioning the flexible insulation tape by the first standard points and developing
8 the dry film to form pattern;

9 (d) etching the copper foil to form metal traces and removing the dry film;

10 (e) sequentially attaching cover films on the flexible insulation tape ;

11 (f) surface treating the flexible insulation tape to make the exposed portions of metal
12 traces form electroplating layer; and

13 (g) punching the flexible insulation tape to form sprocket holes arranged in even
14 number lines, and separating the flexible insulation tape along parallel lines
15 parallel to the lines where the sprocket holes arrange on by cutting or punching
16 method to form several winds of flexible circuit tapes, wherein each flexible
17 circuit tape has a plurality of tape type flexible printed circuits and sprocket holes
18 at two sides.

19 2. The process of claim1, further comprising: repeatedly executing step (b) to step (f)
20 until enough layers of the metal traces are formed on the flexible insulation tape.

21 3. The process of claim1, further comprising a step of electrically testing for testing the
22 flexible circuit tapes and marking the defectives after the step (g) of “punching to form
23 sprocket holes and cutting the flexible insulation tape”.

24 4. The process of claim1, wherein the flexible insulation tape is made of polyimide,
25 polyester, polyethylene naphthalate, liquid crystal polymer, or Teflon.

26 5. The process of claim1, wherein the cover films are made of polyimide or Teflon.

27 6. The process of claim1, further comprising to set second standard points on the flexible

1 insulation tape for positioning the cover films after the step (d) of “etching the copper
2 foil”.

3 7. A flexible circuit tape with tape type flexible printed circuits arranged in a plurality of
4 rows, each tape type flexible printed circuit comprising:
5 a flexible insulated layer having a thickness about 10~75 μm ;
6 a plurality of metal traces formed on the flexible insulated layer and having a thickness
7 about 5~40 μm ; and
8 a cover layer formed on the flexible insulated layer and having a thickness 10~75 μm
9 approximately, the cover layer having hollow portions for exposing the connection
10 terminals of the metal traces;
11 wherein a plurality of sprocket holes are formed at two side of each row of tape type
12 flexible printed circuits.

13 8. The flexible circuit tape of claim7, wherein the cover layer is made of polyimide,
14 polyester, or photoimagible solder mask.

15 9. The flexible circuit tape of claim7, further comprising an electroplating layer or
16 protruding electrode on the exposed connection terminals of the metal traces.

17 10. A process for massively producing tape type flexible printed circuits comprising the
18 steps of:
19 (a) providing a flexible insulation tape having a copper foil on the surface and reeled
20 in a reel;
21 (b) sequentially pressing a dry film on the flexible insulation tape;
22 (c) developing the dry film;
23 (d) etching the copper foil to form metal traces and removing the dry film;
24 (e) forming a cover layer on the flexible insulation tape;
25 (f) surface treating the flexible insulation tape; and
26 (g) punching the flexible insulation tape to form sprocket holes arranged in even
27 number lines, and separating the flexible insulation tape along parallel lines

1 parallel to the lines where the sprocket holes arrange on by cutting or punching
2 method to form several winds of flexible circuit tapes, wherein each flexible
3 circuit tape has a plurality of tape type flexible printed circuits and sprocket holes
4 at two sides.

5 11. The process of claim10, further comprising: repeatedly executing step (b) to step (f)
6 until enough layers of the metal traces are formed on the flexible insulation tape.

7 12. The process of claim10, further comprising a step of electrically testing for testing the
8 flexible circuit tapes and marking the defectives after the step (g) of “punching to
9 form sprocket holes and cutting the flexible insulation tape”

10 13. The process of claim10, wherein in the step (e) the cover layer is formed by attaching
11 cover films, printing solder mask, or spraying solder mask.

12 14. The process of claim10, wherein the flexible insulation tape is made of polyimide,
13 polyester, polyethylene naphthalate, liquid crystal polymer, or Teflon.

14 15. The process of claim10, wherein the cover layer is made of polyimide, polyester, or
15 photoimagible solder mask.

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